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terranean, &c., and was engaged in the last weeks of his life in observing the periodical earth-vibrations noticed by Plantamour and D'Abbadie, which he expected would have thrown light on obscure geological and meteorological questions. From careful observations made with accurate instruments, he believed that, the elements from which a law might be deduced had been obtained.

After a short illness, he died on December 25, 1879, aged 60. He was elected a Fellow of the Society on November 9, 1860. His paper "On a mode of figuring glass specula for the Newtonian telescope" appeared in vol. xx., pp. 199–202, of the *Monthly Notices*, and that "On certain depressions on the Moon's western limb" in vol. xxiv., pp. 20–23.

Sir THOMAS MACLEAR, formerly Her Majesty's Astronomer at the Cape of Good Hope, was the eldest son of James Maclear of Newton Stewart, Tyrone, Ireland. He was born on March 17, 1794, and died at his residence, Grey Villa, Mowbray, Cape of Good Hope, on July 14, 1879. His early childhood gave promise of the talents that distinguished the future man, and his proficiency in Latin when only seven years old caused his father to wish him to enter the Church. An attempted coercion in this matter ended finally in a breach between father and son; the funds required for his education as a medical man were placed in the hands of friends, and he was dismissed to England, at the age of 15, to the care of his maternal uncles, Sir George and Dr. T. Magrath, both eminent medical men.

He studied at Guy's and St. Thomas's Hospitals, and passed his examinations in all branches of his profession with high honours. Brilliant prospects were opened before him in London; but he preferred a quieter life, where he could follow with more advantage his mathematical and astronomical studies, which already were becoming to him a necessity of life. He was accordingly elected house-surgeon of the Bedford Infirmary, where, in the congenial society of Admiral Smyth and others, he combined with the practice of his profession a gradually increasing study of astronomy.

In 1823 he moved to Biggleswade, where he practised his profession; and in 1825 he married Mary, third daughter of Mr. Theed Pearse, for many years clerk of the peace of the county of Bedford. His astronomical pursuits daily absorbed him more and more, and he built a little observatory in his garden, in which he spent every moment he could spare.

In 1833 he was appointed Her Majesty's Astronomer at the Cape of Good Hope. He reached his new sphere of labour on January 5, 1834, and took up his residence at the then desolate-looking Observatory.

Ten days afterwards Sir John Herschel arrived at the Cape, and the next four years were spent in happy mutual intercourse

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between the two astronomers, each assisting with heart and soul the labours of the other. From the date of Mr. Maclear's arrival the records of the Observatory bear ample testimony to his devotion and zeal, and show that he applied himself to the execution of his duties as laid down in his official instructions, with the untiring energy which distinguished him.

The Transit Instrument and Mural Circle were kept in constant use, and a large amount of most valuable material was accumulated. Under the clear skies of the Cape it was inevitable that with a man of such a temperament observations would far exceed the computing powers of his staff. The personal establishment of the Observatory at the time was much too limited to enable the astronomer to reduce and publish the great mass of observations which he accumulated. The actual force on duty at the Observatory was as follows: from January 1834 to December 1834, the astronomer and one assistant; December 1834 to October 1835, the astronomer; October 1835 to October 1839, the astronomer and one assistant; October 1839 to October 1845, the astronomer and two assistants.

In 1838 the first part of his great work, *The Verification of Lacaille's Arc of the Meridian*, was commenced. The measurement of this arc and its extension were commenced in 1840, and the field work was finished in 1847.

It is impossible to convey within the limits of this notice any adequate idea of the indomitable energy and perseverance with which this operation was carried out, of the difficulties surmounted, and of the extent and value of the work accomplished with limited means. That all this was fully recognised at the time is sufficiently testified by the fact that for this work he received the Royal Medal of the Royal Society of London and the Lalande Medal of the Institute of France.

Besides the great value of this survey in a geodetic sense, it forms the groundwork of the survey of the colony, and has given to that operation in certain parts of the country a character and completeness which it would otherwise have lacked.

In 1847 a 46-inch Achromatic Telescope by Dollond was mounted equatoreally, and in 1849 an Equatoreal by Merz, of 7 inches aperture and 8½ feet focal length, was added to the instrumental equipment of the Observatory.

These instruments were vigorously employed in the observation of double stars, comets, and nebulæ, and of occultations of stars by the Moon. The results of many of these observations have been published from time to time in the *Memoirs* of this Society, but some of the most valuable series still remain to testify still more strongly to the unwearied activity and skill of Mr. Maclear as a practical astronomer. The original records show that the observations were sustained nearly all night long, and there are frequent notes to the effect that the observations have been brought to a close by the rising Sun.

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Simultaneously with these observations the meridian instruments were worked with redoubled energy, and during the years 1849–53 the whole of the stars of the B.A.C. having south declination were observed generally three times in both coordinates. The energy with which this series of observations was carried on is shown by the fact that in the year 1852 between 9,000 and 10,000 observations of right ascension were made with the Transit-Instrument, on some nights over 100 stars having been observed. The reduction of these observations, with a view to their early publication as the "Cape Catalogue for 1850," now occupies the attention of Her Majesty's Astronomer.

In 1855 the new Transit-Circle (a facsimile of the Greenwich Transit-Circle) arrived. It was duly mounted with the assistance only of local masons and labourers, and observations were commenced with it at the end of the same year.

In 1859 Mr. Maclear paid a visit of a few months to England, and keenly enjoyed the seeing of old friends and making the personal acquaintance of many men only known to him by repute or by correspondence.

He returned to the Cape in 1860, and in June of the same year he received the honour of knighthood, a well-merited recognition of his labours in science. After the year 1860 Sir Thomas Maclear's attention was chiefly directed to the reduction of his previous observations. He reduced the valuable series of observations made in the years 1835–40, which have since been revised by Mr. E. J. Stone, Sir Thomas Maclear's successor, now Radcliffe Observer, and formed by him into the Cape Catalogue for 1840, containing 2,892 stars. Sir Thomas also partially reduced the observations made with the new Transit-Circle in the years 1856–60, a work completed by his successor, and published under the title of the "Cape Catalogue for 1860."

All comets visible in the southern hemisphere were diligently observed by him with the Equatoreal, and the places of the comparison stars observed with the Transit-Circle. The results of these observations were always promptly reduced and published in the *Memoirs* or *Monthly Notices* of this Society.

Amongst these may be quoted the following series: 1835–36, Halley's Comet; 1842, Encke's Comet; 1844, Mauvais' second Comet; 1844–45, Wilmot's Comet; Comet of 1843; 1846, Biela's Comet; 1850, Petersen's Comet; 1853–54, Klinkerfues' Comet; 1855, Encke's Comet; 1857, D'Arrest's Comet; 1858–59, Donati's Comet; Comet III, 1860; Comet I, 1861; 1861–62, Encke's Comet; Comet II, 1862; Comet I, 1865; 1865, Encke's Comet.

He determined the parallax of *α Centauri*, confirming Henderson's result of an annual parallax amounting to nearly 1″ of arc. He accumulated a fine series of observations of the most interesting binaries in the southern heavens, which is still unpublished.

He made a long-continued series of observations of the Moon

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and of Moon-culminating stars for the purpose of determining the longitude of the Observatory and the parallax of the Moon.

Besides these varied astronomical labours he gave much attention to meteorological, magnetic, and tidal observations. He was successful in exciting an interest throughout the colony in meteorological observation, and was always ready to lend a helping hand to any student of science.

He threw himself with heart and soul into all measures by which he could promote the well-being of the colony. He was a member of the Examining Board; for many years he assisted in the establishment of lighthouses, and was the originator of, and took part in a commission on standards of weights and measures. He felt the keenest interest in sanitary matters, and in cases of emergency has lent his medical assistance.

He was the intimate friend of Livingstone. Their acquaintance commenced in 1850, when Livingstone came to him for assistance as to the best means of ascertaining his position when on his travels. Livingstone's quickness and aptitude for the work won Maclear's heart: the men were kindred spirits, and their firm friendship continued to the end.

The reduction of Livingstone's observations was performed at the Observatory, and formed a serious item in the work undertaken; but the labour was a labour of love.

The year 1861 was shadowed by a sad bereavement, which caused him the keenest sorrow. He occupied himself still more closely with his official duties, and in the various colonial matters in which he took a part, till, in 1870, he retired from the Observatory, and lived at his residence in Mowbray, about a mile from the scene of his former labours. Latterly his sight failed him, and in 1876 he became totally blind. In his declining health he was tenderly nursed by a devoted family; he kept up his interest in science and politics with unabated vigour, his daughters reading to him for hours together. He was particularly interested in all matters connected with the exploration of Africa, and the last occasion on which he left his house was to attend a meeting held in Cape Town when Stanley visited the colony.

No name was better known or better loved in the colony than that of Sir Thomas Maclear. On the occasion of his last public appearance, which we have just mentioned, he was received with even greater applause than that which greeted Stanley himself.

Sir Thomas Maclear gently breathed his last on July 14, and his remains were interred in the Observatory grounds beside those of his wife, not far from the spot where Fallows—the first astronomer at the Cape—is buried.

Sir Thomas Maclear was elected in 1828 a Fellow of this Society; in 1831, a Fellow of the Royal Society; in 1835, a Member of the Academy of Sciences, Palermo; in 1858, a Corresponding Member of the Imperial Geological Institution

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and Geographical Society of Vienna; and in 1863, a Corresponding Member of the Institute of France. In 1860 he received the honour of knighthood, in 1867 he received the Lalande Prize of the Institute of France, and in 1869 a Royal Medal of the Royal Society.

The House of Assembly at Cape Town agreed to the following resolution on July 17, 1879:—"That this House desires to express its deep sense of the signal services rendered by the late Sir Thomas Maclear, Knt., F.R.S., F.R.A.S., to the general cause of astronomical and geographical science while in charge of the Royal Observatory, Cape Town, and also to the material interests of the colony in the practical application of his researches; and, furthermore, its high appreciation of his devotion for a long period of years to the cause of South African exploration and civilisation; and that this resolution be recorded in the journals of the House."

HENRY MANN, late of Spern Bank, near Cleckheaton, died at 15 Phillimore Gardens, Kensington, on August 20, 1879, aged 73. He was attached to astronomy, and possessed a valuable instrument; he was also a distinguished amateur musician. He was elected a Fellow of the Society on May 12, 1871.

JOHN NETWON PEILL, B.D., was born at Liverpool on December 14, 1808. He was educated at the Royal Institution in that town, and afterwards at Queen's College, Cambridge. He graduated as Seventh Wrangler in the Mathematical Tripos, 1831, and was soon after elected a fellow of his college, of which he became also tutor and bursar. He was rector of St. Botolph's, Cambridge, from 1843 until 1853, when he was presented by his college to the rectory of Newton Toney, in the diocese of Salisbury. He became also rural dean of Amesbury, and diocesan inspector of schools. A most active and energetic clergyman, he was well known for his administrative abilities, especially in connection with schools for the poorer classes. He possessed some good astronomical instruments, and made many observations in his little country Observatory, but the mathematical side of astronomy had for him the most interest. He died on June 12, 1879. He was elected a Fellow of the Society on January 12, 1869.

JOHN EDMUND RICHARD was the son of John Richard, of St. Martin's Lane, and was born in London in 1818. He received the greater part of his education privately, and early in life joined his father in the old-established firm of Richard & Wilson, wholesale stationers, St. Martin's Lane, London. Mr. Richard's love of scientific pursuits was manifested in his younger days, and he appears to have dipped into most sciences; but circum-